fear being that doctrines too radical for the time might be preached from this forum, but when the real object of the young men interested was fully understood restrictions were removed. It was the first enterprise of its kind in the history of Japan and was so successful that after a few years it was able to acquire a building or hall of its own, constituting an event of real importance in the evolution of this rapidly changing nation. The audiences were large and enthusiastic from the start and specially eager to learn of the discoveries in science and their practical applications in Europe and America. It was my good fortune to be invited to give several courses of lectures to these men, sometimes in a large theater and sometimes in a large Buddhist temple from which the "gods" and other insignia of worship had been temporarily removed.

Those using other than the Japanese language must necessarily have an interpreter, and when I stood before one of these audiences for the purpose of explaining some of the more recent advances in physical science and their applications, it was the boyish-looking professor of mathematics who stood at my side to render my words intelligible to them. The difficulty of this task will be recognized when it is remembered that at that time the Japanese vocabulary included practically no equivalents for the numerous technical and scientific terms necessarily made use of in such discourses.

Since then, by the indefatigable and wisely directed labors of native scholars, the language has been so enriched that this difficulty no longer exists. Then, however, the task of explaining the meaning of these terms fell upon the interpreter, and because of his training in the exact sciences at Cambridge and his excellent and ready knowledge of both tongues, it is doubtless true that no other person in the world could have done it so well.

The acquaintance thus begun quickly ripened into a close friendship, which stood the test of years and distance and ended only with his death.

Kikuchi made a somewhat prolonged visit in the United States in 1884 as delegate to the International Time Congress, making friends of all whom he met; another in 1909, already referred to; and a third, planned for the winter of 1917–18, was prevented by his death.

Due perhaps to his having mingled with them at an early age and during his most receptive years, his association with foreigners always seemed somewhat easier and less formal than is the case with many of his countrymen, among whom one may often note a sort of unconscious aloofness or reticence in their relations with other races. He possessed a keen sense of humor, which, however, is by no means uncommon among the "intellectuals" of the Land of the Rising Sun. There was about him a charm of manner and refinement of conduct that endeared him to all who had the good fortune to know him intimately. Whatever trace of race prejudice one might have retained through inheritance or otherwise, it was never called up by Kikuchi's presence. Indeed, he was a type of "scholar and gentleman worthy of any race or time."

To show the esteem in which he was held among his own people I can do no better than to quote from a tribute, published soon after his death, by one of his favorite pupils in the early years of his teaching (and one of mine during the same period), Dr. R. Fujisawa, later his successor as professor of mathematics in the Imperial University, to whom I am greatly indebted for information relating to Baron Kikuchi's earlier life. He says:

> It has fallen to the lot of very few men of learning to preside over the progress of education and the advancement of knowledge for over 40 years with unfailing sagacity and unbroken success. If "luck" can be said to have aided him at all, it was to be found in the happy coincidence that his talent and disposition so well harmonized with the time and surroundings in which he lived. Kikuchi's name will go down in Japanese history, and it will be remembered of him that although he attained the highest honors his country could bestow on one who emerged from the often-neglected circle of scientific men, he remained from first to last the same genial, modest, courteous man, the same warm-hearted and unchanging friend, the same loyal and devoted servant of his sovereign and his country.

The late Prof. Abbe was among the warm friends and admirers of Baron Kikuchi and maintained a correspondence with him up to about 1911. The acquaintance probably began in 1875, when Prof. Abbe was in active correspondence with a number of leading Japanese and urging the establishment of a national centralized weather service which should coordinate and centralize the sporadic and independently managed Japanese observatories of that day. When Baron Kikuchi visited the United States and Washington in 1884, he was naturally among the guests at the home in I Street where Prof. Abbe was entertaining other delegates to the International Prime Meridian Congress, in whose activities he was taking a leading part. This opportunity for personal acquaintance was always one of the happiest memories of those days, and the mutual esteem then developed steadily increased. It seems altogether appropriate that the above memorial by Dr. Mendenhall should appear on the pages of the REVIEW instituted by Prof. Abbe.—C. A., jr.

Rollin Arthur Harris, Ph. D., 1863-1918.

Dr. R. A. Harris, who died suddenly on the streets of Washington, D. C., January 20, 1918, was one of the world's authorities on the laws and motions of terrestrial oceanic tides and had been a mathematician in the Tidal Section of the United States Coast and Geodetic Survey since 1890. He had also contributed to the perfecting of the Coast Survey's tide-predicting machine.

Harris was born in Randolph, N. Y., April 18, 1863. took his undergraduate degree from Cornell University in 1885 and his Ph. D. in 1888, afterwards spending a year at Clark University, Worcester, Mass. The obvious relationship between tides oceanic and tides atmospheric, as well as Harris's powers of mathematical analysis, secured and kept for him the liveliest interest and appreciation on the part of Prof. Cleveland Abbe. Harris was persuaded to contribute several papers to the pages of the MONTHLY WEATHER REVIEW, and they are listed below.

A partial explanation of some of the principal ocean tides. (Read before the National Academy of Sciences, Apr. 19, 1900.) MONTHLY WEATHER REVIEW, March, 1900, **28**: 103–108 and map.

Note on the oscillation period of Lake Erie. MONTHLY WEATHER REVIEW, June, 1902, **30**: 312 and fig.

The semidiurnal tides in the northern part of the Indian Ocean. MONTHLY WEATHER REVIEW, March, 1903, **31**: 127–133 and 5 figs.

Early knowledge of the tides at Panama. MONTHLY WEATHER REVIEW, February, 1906, **34**: 80–81.

Deflecting force due to the earth's rotation. MONTHLY WEATHER REVIEW, October, 1908, **36**: 327–328.

Dr. Harris also prepared an extended critical review of the last edition of Krümmel-Boguslawski: Handbuch der Ozeanographie, which the REVIEW was unable to publish. The critique eventually appeared elsewhere.

Joining the Coast and Geodetic Survey in mourning the loss of an extremely modest but able and illustrious colleague, the Weather Bureau particularly regrets this loss of a helpful and sympathetic friend to the advancement of the higher meteorology.—C. A., jr.